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(Agenda item 13)

PROGRESS REPORT ON ENVIRONMENT STATISTICS

Table of Contents

		Paragraphs
I.	INTRODUCTION	1 - 2
II.	ACTIVITIES IN 1988-1989	3 - 16
III.	THE 1990-1991 WORK PROGRAMME	17 - 19
IV.	ELEMENTS FOR AN EXPANDED PROGRAMME ON ENVIRONMENT STATISTICS UP TO 1993	20 - 44

I. INTRODUCTION

1. The initial call to develop environment statistics within ECA's Statistics in Africa programme was made at the Third Session of the PSD in 1984. But ECA's activities in environment statistics started only at the beginning of 1988 when funds from the regular budget became available for one professional post. The work programme for the biennium 1988-1989 was endorsed by the Fifth Session of the PSD which had also requested a progress report to be presented to this Session.

2. This report therefore summarizes the work completed during 1988 and 1989. It covers progress made in establishing a regional data base on environment statistics in Africa and in providing technical assistance to member States. Based on the experience gained so far, it specifies areas which need further attention in the 1990-1991 work programme. Recommendations on the direction of future work, especially the development of technical co-operation and of data bases at national and international levels, will be presented.

II. ACTIVITIES IN 1988-1989

3. According to the programme budget for 1988-1989, the following outputs and operational activities had been planned for the biennium:

(a) the provision of environmental data in the form of four computer printouts to government statisticians and planners (two printouts each year);

(b) the conducting of two advisory service missions to member States, on request, on the establishment or improvement of environment statistics;

(c) the provision of support for two workshops on environment statistics (for English- and French-speaking countries, respectively).

4. As ECA started to establish a data base on environment statistics, all printouts were produced and dispatched to ECA member States. Due to an extremely limited travel budget of the ECA Statistics Division and an increase in air fares, only one of the two advisory service missions could, however, be carried out. Unfortunately the third element could not be implemented at all as the regular budget had not foreseen any funding for the workshops.

A. Data collection, compilation and presentation

5. In 1988, two sets of computer-printouts were sent to countries for information, verification and updating. According to the priorities, the focus of the first data sets produced under the programme related to drought and desertification. The data were, therefore, mainly derived from FAO publications (Yearbooks on Forestry, Fishery, Production) and from the United Nations Energy Statistics Yearbook. A request was made to countries to update where possible and to return the corrected printouts to ECA. A few countries responded to the 1988 printouts, in some cases revising FAO data and estimates.

6. The first set of the 1989 round of computer printouts, dedicated to agro-climatological information, had a much better feed-back. Information contained in the two volumes of FAO's Agroclimatological Data of 1984 (one for North, the other one for South of the equator) was analysed to extract a sample representing the various climatic zones in each African country. The goal was to compress the data into one-page per country presentations containing 30 year averages of major indicators. In addition, detailed rainfall data were requested which could eventually be graphically presented against El Niño occurrences. Regarding the selection of representative stations, assistance was obtained from experts in countries and from Regional Advisers attached to the ECA Natural Resource Division and JEFAD. The exceptionally good and quick feed-back to the printouts may be due to the fact that two copies of the printouts were sent to each country, one to the national statistical office, the other one to the meteorological service. A second set of printouts, sent to countries by the end of 1989, contains tables on water resources and animal health in addition to updates on some previously covered topics.

7. Additional data, especially related to biomass, were collected in the context of the UNDP/WB project "Data for monitoring development programmes and aid flows" (RAF/86/058), in which ECA is a sub-contractor to the World Bank. A set of table templates with partially pre-filled tables was sent to countries and national consultants were to collect all available national data accompanied by rich documentation on concepts and definitions. The data are to be published in the first quarter 1990.

8. ECA has started to publish some background indicators on environmental and natural resource topics. Graphs/Tables on land use, mineral resource production and prices as well as energy balances for Africa covering 1980, 1983 and 1986 were included for the first time in the 1986 issue of African Socio-Economic Indicators. The 1987 issue is under preparation.

9. In the first quarter of 1990, the first African Compendium on Environment Statistics will be finalized. This experimental issue will contain major areas where environment data - mostly in the sense of background data and inventories - for Africa are currently available. It is also planned to include a number monographs (urban pollution, cyclone occurrence and effects).

B. Technical co-operation

10. Upon the request of the Government of Botswana a mission for assessing the feasibility of environment statistics was undertaken in October 1989. The Government has recently decided to establish an Environmental Statistics Unit within the CSO and to provide resources for one professional post. Further discussions regarding additional support for the implementation of the programme are underway between ECA and the CSO.

11. Due to resource constraints in the regular budget, it was not possible to undertake another advisory service mission to a second country during the biennium, even though a number of countries had expressed interest.

C. Complementary activities

12. In order to go beyond a short-term perspective for environment statistics in Africa, the ECA Secretariat had also presented to the Fifth Session of the PSD a larger programme extending up to to 1991. This programme was equally endorsed and ECA subsequently tried to obtain funding from extra-budgetary sources which would have allowed to pursue activities beyond the rather modest scope of the regular budget programme. Various bi-lateral and multi-lateral donors were approached but, apart from expressing interest, no conclusive arrangement could be reached up to this point. In the moment, requests for funding of a workshop and an associate expert are being re-processed for presentation to donors. Negotiations for obtaining assistance from UNEP are also underway.

13. Under the project "Data collection related to development programmes and aid flows" (RAF/86/058), 32 assessments of national statistical capabilities were carried out. They are summarized in document E/ECA/PSD.6/16 and the conclusions shall, therefore, not be repeated here. The need for establishing the capabilities for environment statistics was stressed by many national statisticians in this contexr. Due to resource constraints, assessments of the feasibility of environment statistics could, however, only be very sketchy.

14. As a summary emerged that a lot of figures on environmental topics such as wood consumption exist in countries but that there are no statistics. Also, the means and the methodologies are most often not at hand at the national level to translate the existing great interest into actual programmes on environment statistics.

15. ECA has, over the biennium, established links of co-operation with agencies within the UN system as well as with national and sub-regional bodies. Regarding methodological work, ECA can benefit from efforts underway at the UN Statistical Office and at the Economic Commission for Europe (ECE) which has been active in developing classifications. Technical discussions on data base content and compilation have been held with FAO, UNEP and the Emergency Preparedness Centre of WHO. The establishment of more links within the continent has, however, been hampered by the lack of available resources to hold regular consultations.

16. In conclusion: Given that the implementation of technical activities like workshops, seminars or on-the-job training was restricted by a lack of funds, ECA's programme on environment statistics is progressing at a slower pace than was hoped at the time of the Fifth Session. If extra-budgetary funds will not become available in 1990-1991, little advances will be made in building up the essential national capabilities in Africa.

III. THE 1990-1991 WORK PROGRAMME

17. In its 1990-1991 programme budget proposal, ECA had requested resources for the following activities in the field of environment statistics:

(a) Technical publication: African Compendium on Environment Statistics (first quarter 1990);

(b) Technical publication: Guidelines on Environment Statistics in Africa (fourth quarter 1991);

(c) Printouts/diskettes on environment statistics (fourth quarter 1990 and third quarter 1991);

(d) Report to the Joint Conference of African Planners, Statisticians and Demographers on the progress made in the field of environment statistics (first quarter 1990).

18. In order to produce Guidelines which would be truly applicable to the realities of statistical services in African countries, ECA had suggested to discuss the draft in an ad hoc expert group meeting, to obtain specialized expertise through the services of consultants in the fields of the natural and man-made environment. In the document A/44/6 (Sect.13) containing the proposed programme budget for ECA, the delivery of the Guidelines was requested as scheduled but without the allocation of the resources needed for their preparation.

19. In its submission, ECA had also proposed advisory service missions to four countries and missions to co-ordinate regional data collection with inter-governmental agencies. The proposed programme budget does not specify the number of advisory service missions, but allows for all such missions under sub-programme 3 (Censuses and Surveys, incl.environment statistics) a total of US $ 5,000.

IV. ELEMENTS FOR AN EXPANDED PROGRAMME ON ENVIRONMENT STATISTICS UP TO 1993

A. Background

20. ECA's effort will continue to aim at integrating environment statistics into routine programmes of national statistical services, thus adding a third element to the two classical areas of demographic / social and economic statistics. Consultations with national planners and statisticians held during the assessments of national statistical capabilities have shown that an articulated need exists for consistent data on environmental topics. The relevance of development planning in African countries very much hinges on the concept of "sustainable development". A conscious approach to managing the natural and man-made environment, based upon knowledge of its main features and interrelationships, plays a crucial role in this.

21. The issue of collecting data for planning is one of immediate relevance, even though many environmental phenomena only manifest themselves gradually. The creeping expansion of drylands, for example, constitutes in most cases a permanent loss as rehabilitation costs far exceed the resources which countries and international donors can mobilize. The provision of an integrated data base which would allow to assess economic and social costs of environmental degradation might help to promote proper resource management and avoid irreversible damage. Environmental data are needed at various degrees of aggregation and complexity. They may range from seasonal, site-specific, project-oriented information in the context of integrated rural

development programmes to historical series of transboundary data in the case of erosion. Finally, Africa needs to contribute increasingly reliable data for building global models on environmental phenomena like the "greenhouse effect" (contributing and mitigating factors).

22. The availability of data varies considerably among African countries, depending on whether environmental assessments have been carried out and whether the data collected in that context were subsequently updated. In a few countries, environment statistics programmes could be tackled immediately. This pertains to those where governments have placed high priority on conservation strategies, where research support can be obtained from local universities and where statisticians with a background in natural resource and agriculture statistics are available. In these cases, the main task is to create a network among various data producing national agencies to ensure (i) that all data collection efforts are known, increasingly harmonized and systematized, and (ii) that data reaches users quickly and in a format conducive to analysis. In the majority of member States the process of establishing environment statistics will, however, take longer and require that strong support for basic and advanced training as well as conceptual assistance is provided.

B. Objectives

23. Four major components should be pursued by the programme:

- Strengthening the capability of national statistical services to generate environment data through training and the provision of manuals as well as data processing equipment and software with GIS features;

- Supporting of STPA training centres through training and fellowships, provision of data processing equipment and teaching material;

- Developing concepts, methods and definitions for statistically assessing Africa's environmental situation, including embarking on environmental accounting on an experimental basis in a few countries

- Developing a data base on Africa's environment.

C. Strategies

24. The main criteria for judging the success of the project are (i) whether African countries involved can, by 1992, generate environmental data which are used by national planners, and (ii) whether national structures are emerging to continue the work without relying on outside support. The focus of the project is thus on long-term sustainability and does not cater to ad hoc activities except for initial assessments of national statistical capabilities in the field of environment statistics.

25. In order to achieve this objective, utmost use of existing resources at the national level and within the UN and inter-governmental system needs to be made. Co-operation among all bodies involved in designing and implementing data bases on environmental topics in Africa is therefore crucial and should become one of the major resources of the project just as co-operation among ministries will be one of the major resources at the national level.

26. The tapping of already existing experience and further collaboration at the international level could yield benefits in the following fields :

- with other regional commissions (initially among the Statistics Divisions of ECA and ECE to be followed by others) and specialized agencies (UNEP, FAO etc.) regarding training, concepts and data exchange;

- with STPA centres for establishing training of statisticians on a long-term basis

- with the Munich Centre for training of trainers for STPA centres;

- with UNEP/GEMS and UNEP/GRID (Geneva/Lausanne) for co-operating in the training of environmental/economic planners in geographical information systems applied to environmental analysis;

- with national statistical offices in Europe, through the ECE Statistics Division, for internships of African statisticians for training in environment statistics;

- with the UN Statistical Office regarding conceptual frameworks and manuals and software development;

- with "lead data" base managers in agencies for exchanging background inventories and for further data development, especially regarding transboundary issues (UN Statistical Office, ECA, ECE, FAO, UNEP, WHO, WMO etc.);

- with users at the international level, such as inter-governmental organizations concerned with environmental issues, for assuring that the data base caters to their analytical and policy needs (in Africa: IGADD, CILSS, UNSO, ACMAD, SADCC; outside: WRI, IIED, etc.);

27. In the following sections, further detail will be provided on possible strategies for achieving the objectives of the project.

D. Strengthening national capabilities through training

- Strengthening the capability of national statistical services to generate environment data through training and the provision of manuals as well as data processing equipment and software with GIS features;

- Supporting of STPA training centres through training and fellowships, provision of data processing equipment and teaching material:

Training of national staff

28. In order to ensure that environment statistics programmes are maintained beyond ad hoc activities, the training component of the project needs to be given particular weight. It could be foreseen to sponsor two trainees per country per year (for 5 countries per year, thus totalling 10 countries over a two-year period), one in statistics, the other one with a focus on empirical tools for environmentally sound planning. The requirement for entering into the programme should be a bachelor's degree in statistics or in environmental management and the institutional affiliation to the national statistical service and the planning institution. Before starting with the training programme abroad, the trainees should spend 5 months with their respective national institutions. Candidates who have written their final paper during their academic training on environment related issues will be given preference.

29. For the statisticians, internships/fellowships within national statistical services in European countries could be arranged (for example Sweden, Netherlands, Hungary, etc.) for a period of 7 months. During the five months prior to the internships, the candidates should collect all available environment data in their countries, extensively document sources and conceptual problems, draw up organizational charts of ministries/agencies involved in data collection, identify

bottlenecks and prepare a draft of a national programme on environment statistics. This exercise could, if countries so wished, be supported by advisory service missions of the ECA Statistics Division. Regarding the fellowships in European statistical offices with environment statistics programmes, the ECE Statistics Division has offered its services in arranging this co-operation.

30. The planners should be trained in geographical information systems applicable to environmental planning. The UNEP/GRID scheme in Geneva/Lausanne may provide these services. ECA was informed that 15 packages (including equipment and training) were available free of charge for African countries. The country planners would need to bring a specific research project to the training course which would also last for 7 months.

31. Upon returning from the training, the statistician and the planner should closely work together refining the type of information to be collected and improving data analysis and presentation formats. Only through this constant interaction will planners and decision-makers draw maximum benefit from the data compiled. I possible, it should also be considered to associate a researcher on environmental planning and management from the local university to the two officers in order to ensure that upcoming issues in environmental planning, refinement of techniques and the relevance of the ongoing work are continuously scrutinized.

32. Together with a senior statistician and a senior planner a permanent national Working Group on Environmental Data consisting of these five members could thus be constituted. This Group could, for example, define data collection priorities in the context of Environmental Assessments, National Conservation Strategies and National Development Plans. It should co-operate with the census planning authorities and with similar user-producer committees for economic and social statistics.

Strengthening of STPA training centres

33. STPA centres should systematically include environment statistics in their curriculum. A draft guide syllabus for environment statistics had been prepared in 1988 and was reviewed by the PSD. This syllabus needs to be further refined, course work defined, resource persons employed, teaching material developed and necessary computer equipment acquired.

34. The Munich Centre could provide regular training for staff of STPA centres in natural resource and environment statistics, including training in geographical information systems (GIS). Strong emphasis should be placed on providing training which shows methods for and the analytical benefits of linking economic, social and environmental data bases. For particularly suited candidates, a fellowship scheme leading towards a doctorate in environment and natural resource statistics should be considered (e.g. Uppsala University).

35. One particular sub-region, for example the SADCC countries, might pioneer efforts to establish environment statistics if support is provided for conducting integrated training and research programmes in this field.

Development of teaching material and software packages

36. Regarding teaching material, micro-computer applications should play a dominant role. These applications can encompass the utilization of commercially available packages such as LOTUS 1-2-3 (with three-dimensional spreadsheets), mapping programmes and conventional data base and graphics programmes. An important role should be played by packages allowing the geographical referencing of data, such as ARCINFO offered by UNEP/GRID and similar geographical information systems.

37. Training may also include specific software packages such as the TCD package called ENERPLAN which can be used for energy accounting and the compilation of energy balances. This package is particularly interesting as it also contains features allowing the incorporation of macro-economic planning elements into the energy model. It would be desirable if software package on issues such as drylands economics would be developed and include accounting modules.

38. Suggestions made by ISI to develop a video programme for teaching environment statistics should be further pursued. Such programmes should be developed and used in conjunction with regular training courses, written material and microcomputer applications. They should be suitable for training at STPA training centres and at the national level.

E. Conceptual and data development

- Developing concepts, methods and definitions for statistically assessing Africa's environmental situation

- Developing data on Africa's environment.

39. Concepts and data should be developed in close conjunction with one another. While utilizing the broad concept of the Framework for the Development of Environment Statistics (FDES), developed by the UN Statistical Office, the focus of methodological work in Africa should be on the development of environmental indicators on high priority issues (drylands, deforestation, urban sprawl) and on presentation formats conducive to analysis (e.g. micro-computer generated maps).

40. A pragmatic, country-oriented approach should be given preference over international standardization, even though the goals of comparability and compatibility need to be pursued especially where transboundary issues are concerned. The conceptual discussion should first and foremost be guided by the principle of generating data which, if well-documented, could be published in national Environment Statistics Bulletins and in the African Compendium on Environment Statistics. Shortcomings of the data should not deter from publishing provided that national practices regarding definitions and concepts as well as data limitations are annotated and discussed.

41. Existing manuals on topics such as human settlements statistics will be used and further adapted where necessary. This work should be carried out in annually held regional workshops on environment statistics. In the initial work programme presented to the Joint Conference in 1988 a series of four workshops had been planned during the period 1988 and 1991. Due to budget constraints, none could be held so far. It would, however, be highly desirable to conduct a workshop on human settlements statistics in the early 1990s to sensitize statisticians for environmental data needs within population and housing censuses.

42. Most of the methodological development at the regional level should concentrate on methods of collecting, compiling and presenting data. Given the constraint on resources for data collection in most African countries, the most important source of data will not come from new surveys but from integrating environmental components into already established censuses and surveys. Emphasis should therefore be placed more on the "how"

of obtaining information than on the "what" to collect. This is particularly true for countries where an environmental assessment was conducted or where the bulk of environmental data needs could be determined in a matter of a few days through inter-ministerial consultations. Core problems to be addressed through the project are the creation of sustained information networks among ministries, agencies and researchers; the increased use and modification of existing mechanisms to collect data so that environmental applications are possible; and the re-structuring of all data bases (economic, social and environmental) with a view to developing greater compatibility.

43. Against this background, conceptual and data development should be geared towards producing tables fitting into a regional minimum programme of environment statistics which should consist of a standard set of approximately 30 to 40 tables. Individual country needs would be taken into account in additional satellite tables accompanying the core tables. Examples for areas of high priority, relevant for a large number of countries (in parentheses "lead agencies" in the respective fields are listed):

- indicators for assessing the extent of drylands, as well as their economic and social impacts (UNEP, FAO);
- the production and utilization of biomass (FAO)
- land use statistics for Africa (FAO)
- water use and quality statistics (WHO and ECE)
- carrying capacity indicators (links between demographic variables and natural resource and human settlements factors) (UNEP, FAO)
- utilization of existing data from population, housing and agriculture censuses and from the national household survey programmes; expansion of the modules to include environmental aspects (e.g. utilization of wood for building and fuel purposes; clearing of savanna areas through burning for agricultural purposes)

44. In order to promote the international discussion on environment statistics, in particular for addressing developing countries' needs, an international working group on environment statistics should be established. Participants should come from the regional commissions, major agencies, inter-governmental organizations and selected countries. Researchers specializing on specific topics should be invited to present papers addressing technical problems. The group should initially convene every six months, assign specific duties to "lead agencies" and discuss the results at subsequent meetings.

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INDICATORS FOR MONITORING PROGRESS TOWARDS ACHIEVING SOCIAL GOALS IN THE 1990's: UNICEF/UNFPA/UNITED NATIONS STATISTICAL OFFICE PROPOSAL

PROPOSED PROGRAMME TO MONITOR THE ACHIEVEMENT OF SOCIAL GOALS DURING THE 1990's

I. Introduction

1. As planning for the fourth development decade begins, there is increasing concensus on the urgency of statistical needs to monitory progress of developing countries as they strive to meet social and human development goals. WHO and UNICEF have already adopted common goals for health of women and children during the decade of the 1990s. These goals include reduction of mortality, improved nutrition, education of women, control of childhood diseases and more effective water and sanitation standards. (see Annex I). The need to monitory progress in achieving these goals presents a direct challenge to individual countries and international agencies to develop and improve their statistical systems in order to produce timely, reliable and relevant statistical indicators.

2. While recognizing that it is the responsibility and prerogative of each government to select its own population policies and objectives in view of particular needs and characteristics of a given country and its population situation, UNFPA is also promoting clear and achievable goals for population programmes for the 1990's (see Annex II) within the context of the strategy for the fourth development decade. These goals include deceleration of rapid population growth through reduction of fertility by expanding education and services for family planning; lowering of current levels of maternal, infant and child mortality; and improving the role, status and participation of women. A wide range of information needs has been identified to monitor these goals. These include data on fertility and pregnancy history; knowledge, attitude and practice of contraception; breast-feeding, maternal, infant and child mortality; migration; family formation and dissolution; disability; school enrolment and educational attainment; economic activity; and employment, unemployment and under-employment.

3. The United Nations preliminary guidelines on social indicators, approved for publication by the Statistical Commission in 1976, and the Handbook on Social Indicators, issued in 1989, provide a general framework and orientation for the development of indicators. Technical documentation on statistics on women, disabled persons and other population groups, and on methods of population and housing censuses, household surveys, and civil registration and vital statistical systems developed by the United Nations over the last ten years, provides extensive technical guidance for basic data collection and for selection of indicators.

4. In addition to the priority interests of UNICEF and UNFPA noted above, it is expected that as the programme to develop indicators to monitor progress in social and human aspects of development begins to take shape, other United Nations agencies will also want to participate in the identification of key indicators that will require continuing or periodic measurement in the decade of the 1990s. The implications for data collection for these indicators will then need to be spelled out so that ongoing basic data programmes of all kinds can be drawn on efficiently and effectively for monitoring purposes.

5. Effective utilization of the statistical indicators by the countries themselves is a major element in order for the programme to be meaningful and worthwhile. While it is thought that all countries will be interested in development indicators (indeed, some have developed their own programme for indicators) that feature social and human goals, as opposed to strictly economic ones, countries will no doubt need to be sensitized to the value and utilization of social indicators. This process can and should take place at meetings of the regional commissions and the Statistical Commission and such fora as the special Working Group meeting on Household Surveys scheduled to be convened by ECA in October 1989.

II Use of Existing Data Collection Systems

6. Data for monitoring various aspects of progress can and must be garnered from a variety of sources, including population censuses, vital and civil registration systems, other administrative record systems, and household sample surveys. The last may hold the most promise for producing the necessary data to derive certain key indicators, although no viable data source would be ruled out. This is due to several factors.

7. First, continuing or periodic household surveys are excellent for measuring change over relatively short intervals - a critical element in monitoring progress. Second, many of the topics for which indicators are needed have already been well-tested in the field with respect to both survey instrument development and estimation methodology. Hence it is reasonable to promulgate the use of standardized questionnaire modules for a wide array of social, economic, demographic and health-related topics, thus eliminating the need to build a long lead time for instrument testing and development - a process which, while essential for new subject matter, can easily add as little as six months or as much as two years to a survey programme.

8. A considerable degree of experience and capability in household surveys has been achieved over the last decade. For example, the National Household Survey Capability Programme (NHSCP), initiated in 1979 in response to a resolution of the Economic and Social Council, and executed, since then with the support of UNDP, UNICEF, UNFPA and the World Bank in collaboration with the specialized agencies concerned viz., the ILO, FAO, WHO and UNESCO, is presently in operation in 30 developing countries of Asia, Africa and Latin America. It is expected that by 1991, the country coverage of NHSCP will be extended to 45 countries in all, of which 27 will have attained adequate survey capabilities. Once the basic survey capabilities are established, it would be feasible and logical to establish on that basis continuing survey programmes for the development of indicators, measurement of progress, and assessment of the changes. The World Fertility Survey (WFS), the Contraceptive Prevalence Surveys (CPS) and the Demographic and Health Surveys (DHS), which followed, have also developed the requisite household survey capabilities so vital for organizing a large-scale, cost-effective and timely survey operation that a programme to monitor social progress would entail.

9. Third, even in countries where surveys have not yet been adequately developed, it may be more practical to develop and organize periodic surveys from the standpoint of timeliness, expense and reliability, to provide the necessary data. This does not mean however, that less attention to the improvement of other data sources such as civil registration or vital statistics systems is advocated. On the contrary support toward their improvement is very much required.

III. Strategy for Developing a Programme

10. In view of the manifest need to measure social and human progress in the decade of the 90's, it is proposed that data collection systems dealing especially with demographic and social aspects be promoted and supported in developing countries. The programme, tentatively entitled HOUSEHOLD SURVEY INDICATORS PROGRAMME (HSIP), will be built upon existing household surveys and other data collection systems, to be supplemented by new initiatives to be established wherever needed, and operated in effective co-ordination with other international survey efforts including NHSCP, DHS and SDA. In detailing the elements of HSIP, it is necessary to look at ways in which this co-ordination can take place. Of equal importance is the necessity to outline the measurement objectives, to ascertain developing country capability, both at the institutional level and methodologically, and to set priorities accordingly, and detail the methodological requirements. These matters are discussed in the following paragraphs:

A Measurement Objectives

11. Looking first at measurement objectives, there are a number of issues here. These include such matters as what measures to estimate, periodicity of measurement, need for subnational and subgroup estimates, etc. Whereas international and national social goals will have identified certain targets for human development in the 1990's, the task of translating these targets into corresponding statistical indicators can be formidable. What must be done is (1) identify those topics which are the most important, and (2) further pare the list to include only those that can be practicably developed, either through household surveys or through other data sources such as vital statistics systems. As mentioned, UNICEF and WHO have already adopted a common list of topics (Annex I) and UNFPA has identified specific population programme goals (Annex II).

12. On the positive side, it should be noted that one of the major advantages of the household survey approach is that a fairly extensive list of topics, can be derived; for this reason it will not be necessary to be overly concerned about developing a very limited list of indicators. Still, it will be essential to settle upon a core set of a limited number of indicators (say 8-10) that is practically manageable from the standpoint of data collection, processing, analysis, dissemination and utilization.

13. The concerned international agencies will obviously have to co-ordinate their respective needs on development of the indicators and arrive at some mutual agreement, while individual countries may have competing indicators, engendered by their own priorities with respect to development goals - an eventuality which must be taken into account in the ultimate design of the project in particular countries.

14. A second issue on objectives is the periodicity or frequency of measurement. There is a clear need to take periodic measurements. This is seen as one of the essential design elements of HSIP since at least some of the indicators, no matter what the final list is determined to be, will require estimates of change in order to draw meaningful conclusions. Closely related to this is the necessity for establishing trends, especially where small changes may not be statistically significant between two successive observations.

15. A third important measurement objective is the issue of subnational and subgroup estimates and differentials. Individual countries are likely to have a strong interest in regional differences, and in urban-rural comparisions while international agencies will, most likely, be primarily interested in national level estimates, as opposed to subnational. Though it is likely that the sample size for some indicators will be too small to analyze subnational data, particularly estimates of change with statistical confidence, it is also clear that many other indicators can be reliably estimated subnationally. An example of the former would be maternal or infant mortality - a relatively rare event, in statistical terms, and thus difficult to estimate at the subnational level unless the sample is prohibitively large. An example of the latter would be estimates of access to clear water. Subgroup estimates will also be of key importance, especially such comparisons as male-female and major social or ethnic groups.

16. It is important to note at the outset what the proposed programme will not do with respect to measurement objectives. HSIP will not be a tool for evaluating the effects of interventions or for establishing causality. These needs, as important as they are, are matters for controlled experiments and evaluation studies. While sample surveys for example can measure the levels, trends, differentials and changes in the target population and thus serve a powerful function as a monitoring instrument, they are not well suited to assessing reasons for observed levels or trends.

B. Situation in Developing Countries and Type of Support Necessary

17. To produce the required statistical indicators, countries will have varying degrees of capability to do so. A programme of technical and financial support is envisioned to assist countries to produce indicators. The level of support for a participating country will be dependent upon its need, determined on the basis of institutional infrastructure and methodological sophistication. Donor agencies are expected to be UNICEF, UNFPA and UNDP and perhaps other donor countries under bilateral or multilateral arrangements.

18. An inventory must be prepared profiling the current status of each country with respect to data collection systems in place or planned, as well as the current availability of data relevant to the production of key indicators. Information on the data collection systems will help assess the capability of each

country to collect data relevant to the production of key indicators in the future. The current availability of data will help determine the data that can be produced for establishing the current levels of key indicators. See Annex III for an example of the data collection systems part of such an inventory. With the inventory, three (perhaps 5) categories of countries could be formulated, to depict their current situation and priority status for UNICEF and UNFPA, plus the amount and type of assistance they would need. Due to the success of programmes such as NHSCP, WFS and DHS, many countries already have adequate household survey systems to produce the necessary data for indicators. Such countries, along with others who might have developed data collection systems on their own, may be categorized as Type I - Strong Capability, and would receive the least amount of external aid under HSIP. These countries are characterized as already having the following characteristics:

- an existing nationwide, continuing household survey programme or other data collection system that can produce indicators readily.

- a reasonably up-to-date sampling frame, and in some cases a master sample for producing national estimates.

- the institutional capacity to take on either survey modules appended to existing surveys or new surveys as necessary.

19. Type I countries are those that should be able to produce relevant indicators in the shortest time frame, due to their comparative strength methodologically and institutionally. The anticipated kind of assistance that Type I countries would receive would consist of (1) a formulation mission, where needed, to develop the workplan to produce indicators, (2) financial aid to carry out periodic data collections and data processing, and (3) technical assistance for developing the survey instruments for such indicators as child mortality and in developing procedures for constructing estimates and analyzing results.

20. The Type II countries - Moderate Capability - could be characterized as having some of the characteristics of the Type I countries but not all. For example, a Type II country might have a continuing survey programme but one which is based on an outdated or incomplete sampling frame or a sampling frame but no continuing survey programme; such a country would require much more development work, and hence development assistance and financial aid, in order to bring it to the level necessary for producing indicators.

21. The kind of assistance that will be necessary for Type II countries might be (i) a formulation mission to assess the degree of capability and to develop the workplan accordingly, and (2)

financial aid to shore up infrastructure (such as constructing a master sample) and to carry-out periodic data collections and data processing and (3) financial aid in most countries to support technical assistance on using child mortality survey instruments (and perhaps others) and in developing procedures for constructing estimates and analyzing results.

22. The Type III countries - Least Capability - will be characterized as having very little already established in the way of data collection infrastructure, sampling capability or operational continuing surveys for national data collection. Such countries will obviously require maximum external aid and long lead time before capability can be brought to the level necessary for producing indicators.

23. Type III countries will no doubt require the greatest amount of assistance - both financial and technical. Due to their relative lack of development it does not appear likely that Type III countries could begin to produce baseline indicators, until the third or fourth year of the programme.

C. Priorities for Aid to Countries

24. In setting priorities for selecting the countries that will receive technical and financial assistance, contingent upon their own national requirements and interests of course, size and population density will be considered, as well as rate of population growth. In addition it will be important to cover each of the regions of the world. The Household Survey Indicators Programme would extend, initially, over a 5-year period, 1990-1994. The external aid requirements will have to be determined in respect of each country taking into account its size, type and priority in the above category.

D. Methodological Requirements

25. This section briefly described some of the components which need consideration in the production or monitoring indicators. The ones covered are those of collection method, measurement instruments, data processing as well as data analysis, outputs and use.

26. While other means of data collection will be used, it is expected that household sample surveys will be the most common collection method. However, this method encompasses a wide range of possibilities, from small, one-time, data collection covering only one or two indicators, to large, continuous data collection systems with a permanent field staff, associated infrastructure

and collecting a wide range of indicators. For reasons of efficiency and effectiveness, the long term preference is to use integrated, continuing household surveys, such as those being supported by NHSCP. At the same time there is a requirement to produce indicators in the immediate to intermediate term, for type III countries as well as those in the type I category. For type III countries, in particular, as well as a number of type II ones, it will be necessary as an intermediate measure to utilize alternatives to the permanent and complex infrastructure demanded by continuing surveys. Such alternatives exist and are being used, for example, by UNICEF and WHO to obtain rapid assessments of child mortality level or immunization coverage. Elapsed times from initial development to production of estimates are from six to nine months.

27. In order to facilitate the collection of good quality data and to allow comparability over time and between regions, standardized measurement instruments and related procedures should be used where possible. For a number of indicators such instruments do exist, for example, for infant and child mortality and for nutritional status. However, for other indicators such as mortality by cause, or prevalence of respiratory infections, standardized instruments are not easily identified and some research and development work will be needed. Even for indicators associated with standardized instruments which have been available for some years, such as infant mortality, there is not necessarily one "best" single measurement instrument.

28. Standardized measurement instruments have a number of benefits, which not only affect the data collection system, but also have a major impact on the processing of data. With the rapid expansion in the use of computers in data processing, standardized collection instruments facilitate the use of standard, preprogrammed processing modules and packages. Not only does this improve the quality of the output data, it can also result in dramatic improvements in the time taken to produce outputs. This is a critical element when dealing with monitoring data, since the primary purpose of these data are to identify instances where deterioration in human conditions require rapid remedial action. For example, the nutritional status of children can change drastically over a period of three months. Discovering this change only a year or more later can result in many children suffering irreparable damage, which could have potentially been avoided if remedial action had been taken much earlier.

29. Nevertheless, the timely production of relevant data of reasonable quality does not automatically lead to its use. There are many examples where relevant data have been produced, but no

use has been made for them. This can be partly an organization or occupation problem since statistics are frequently produced in one government department but used by another. Furthermore, the producers of data often take the view that once they have produced the data, it is someone else's responsibility to use these data. For these reasons, and others, the communication of data from producer to user and hence their use is often a weak link in a monitoring system. A number of approaches can help such as: better analysis and presentation of data, so that users can more easily understand their meaning; a monitoring team composed of both producers and users; planning ahead as to how proposed data can be used, for example, what action could or should be taken if the maternal mortality rate in a region increase by 5 per cent, 50 per cent or 200 per cent. While approaches like these can improve communication and use of data, this area is likely to be one which requires a considerable degree of flexibility in order to develop effective monitoring within a country.

E. Co-ordination and Management

30. Co-ordination must take place on several levels. Each of the concerned international organs of the United Nations System must work together to accept/approve the overall concept and, more specifically, to develop a list of statistical indicators. Co-ordination must take place among the various programmes already involved in household surveys, notably NHSCP, DHS, SDA. This is necessary not only to avoid duplication of effort within participating countries on survey-taking aspects but to take advantage of the cumulated wealth of expertise and experience which has built up in these programmes for purposes of conceptualizing various details of NHSIP. An early task, for example, for these existing programmes is to develop a first cut at categorizing the countries into the 3 or more types.

31. Regional commissions will play an important role throughout the process. For example, their expertise would be tapped in refining the list of countries in the three categories. They would also pay a key role in mobilizing countries to set the indicators programme in motion and provide technical support and training. In this respect the manpower resources of respective regional commissions will need to be appraised to ensure that they have the requisite capability to undertake the said task.

32. As for managing the technical aspects of the programme, it is suggested that the NHSCP Central Co-ordinating Unit (CCU) of the UN Statistical Office be the Co-ordinating Unit for HSIP also, because of the perceived close relationship between the proposed programme and NHSCP.

F. Initial Developments

33. The task of monitoring is not an easy one. It is therefore proposed that as an initial activity of the HSIP, pilot projects be launched in several countries. These countries would be selected to ensure representation from all three category types. The primary purpose of these country specific projects is to assess the technical, administrative and practical problems of HSIP. This would provide a substantial knowledge base for the development of data collection, processing and use approaches, as indicated in section D, will be required as support to these pilot projects. The inventory discussed in section B will be further developed in parallel with the pilot project work.

ANNEX I

WHO/UNICEF COMMON GOALS FOR HEALTH DEVELOPMENT OF WOMEN AND CHILDREN BY THE YEAR 2000

The goals have been grouped under: Reduction of mortality, Women's education and health, Better nutrition, Control of childhood diseases and Control of the environment.

1. Reduction of mortality

1.1 Reduction by 50 per cent of maternal mortality rates from 1980 levels.

1.2 Reduction of 1980 infant mortality rates by at least half or to 50 per 1000 live births, whichever achieves the greater reduction.

1.3 Reduction of 1980 under-five mortality rates by at least half or to 70 per 1000 live births, whichever achieves the greater reduction.

2. Women's education and health

2.1 Achievement of universal primary education and 80 per cent female literacy.*

2.2 Access by all couples to information and services for child spacing.

3. Better nutrition

3.1 Reduction of the rate of low birth weight (2.5 kg) to less than 10 per cent.

3.2 Enable all women to exclusively breast-feed their child for four to six months and to continue breast-feeding with complementary food well into the second year.

3.3 Virtual elimination of severe malnutrition among under-5 children and reduction by half of moderate malnutrition.

3.4 Virtual elimination of iodine deficiency disorders.

3.5 Virtual elimination of the blindness and other consequences of vitamin A deficiency.

4. Control of childhood diseases

4.1 Global eradication of polio.

4.2 Elimination of neonatal tetanus by 1995.

4.3 Reduction by 95 per cent in measles deaths and reduction by 90 per cent of measles cases in 1995, compared to pre-immunisation levels as a major step to the global eradication of measles in the longer run.

4.4 Reduction by 70 per cent in the deaths due to diarrhoea in children under the age of five years; and 25 per cent reduction in the diarrhoea incidence rate.

4.5 Reduction by 25 per cent in the deaths due to acute respiratory infections in children under five years.

5. Control of the environment

5.1 Universal access to safe drinking water.

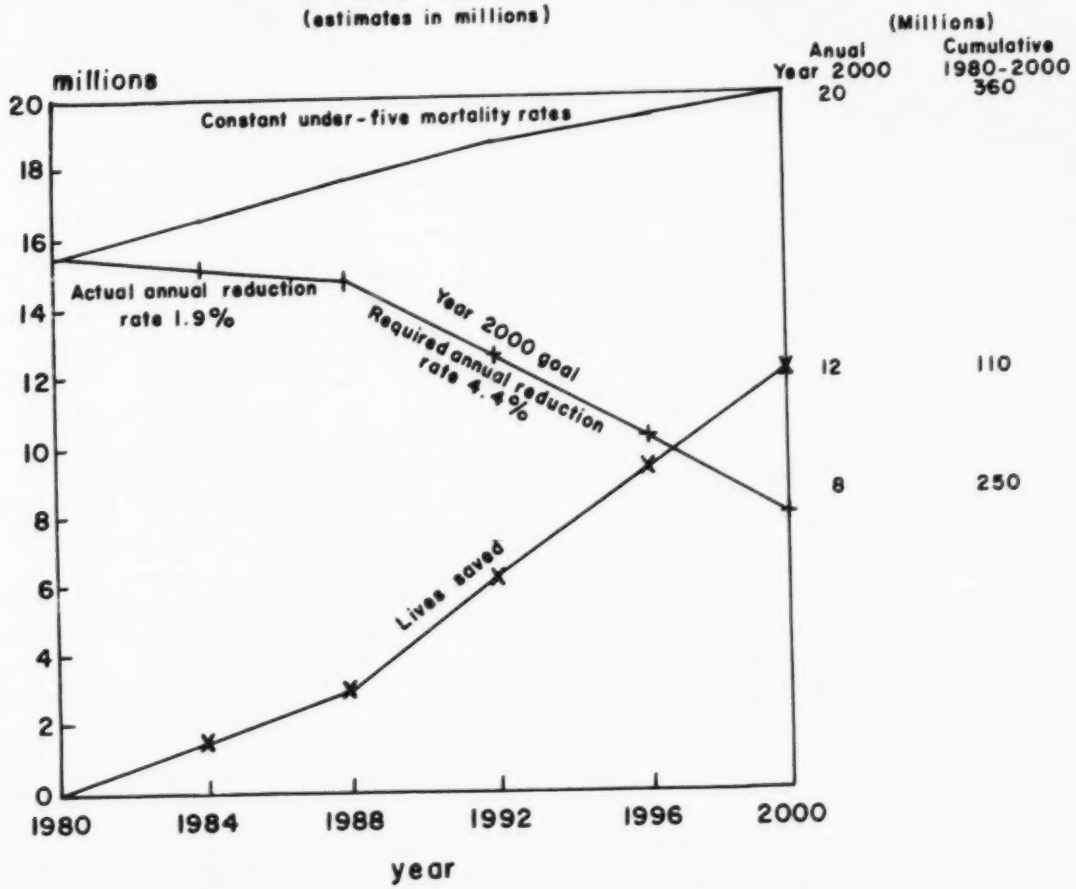
5.2 Universal access to sanitary means of excreta disposal.

5.3 Elimination of guinea-worm disease by 1995.

5.4 Achievement of a safer and more sanitary environment, with significant reductions of radioactive, chemical and other microbiological pollutants.

* each country to define the age group.

GLOBAL ESTIMATED DEATHS AND LIVES SAVED
CHILDREN UNDER FIVE YEARS OF AGE
1980 - 2000
(estimates in millions)



The 1980 under-five mortality rates remain constant to the year 2000.

Up to 1988 the under-five mortality rates are as estimated by the United Nations Population Division. From 1988 countries make sufficient progress to reach their CSDR targets by the year 2000 i.e. either an under-five mortality rate of 70 or half their 1980 rate whichever is lower.

i.e. the difference between Projection A deaths and Projection B deaths

ANNEX II

UNFPA GOALS IN THE 1990's

These were enunciated in a recent statement by the Executive Director of UNFPA with an objective to:

- make family planning a development priority, ranked alongside major economic investments, and with an allocation of not less than one per cent of GNP in the countries concerned;

- extend family planning services to 500 million women;

- ensure that no person lives more than one hour's walk away from a health facility providing basic health care and family planning and that no-one lives more than two hours' travelling time from basic emergency facilities;

- reduce maternal mortality by at least 50 per cent especially in those countries where such mortality is very high (higher than 100 maternal deaths per 100,000 births);

- reduce infant mortality to 50 per 1000 live births - especially in those countries where infant mortality is high;

- expand girls' enrolment in primary school to at least 75 per cent. In countries where girls' enrolment is particularly low, ensure that the ratio of girls to boys in primary schools is at least 4:5;

- expand girls' enrolment in secondary school to at least 60 per cent. In countries where girls' enrolment is particularly low, ensure that the ratio of girls' to boys in secondary school is at least 3:5;

- combat women's illiteracy so that at least 70 per cent are able to read and write.

ANNEX III

HOUSEHOLD SOCIAL INDICATORS PROGRAMME:

STRATEGY FOR COUNTRY INVENTORY AND CLASSIFICATION

A - Criteria for inventory and classificarion

1. As the HSIP aims essentially ar producing on a regular basis a set of key social indicators, the inventory will give consideration to all data sources and systems of information on social and health related aspects of the population.

2. Once the inventory is compieted - an iterative process - the following criteria could be applied to classify the countries in a limited number of categories (not more than 5), each corrsponding to a specific type of support by the Programme.

i. Priority status of the country for UNICEF (if any).

ii. Priority status of the country for UNFPA.

iii. Demographic surveys carried out in the past (if any), in which year and within which data source (e.g. National, WFS, CPS, DHS, NHSC) orhers).

iv. Healrh and/or nutritional status surveys carried out in the past (if any), in which year and within which data source.

v. Parricipation in the NHSCP programme or any other similar programme with the objective of national capability building in the field of household surveys.

vi. Completion or coverge rates of deaths and births by the civil registrration sysrem.

vii. Planning of a census in the nexr five years.

viii. Planned parricinarion or formal requesr for participarion in the NHSCP and/or SDA projecr (Sub-Saharan Africa).

ix. Parricipation or planned parriciparion in phase 2 of the DHS and/or PAPCHILD Surveys.

B - Country Inventory Table

3. The arrached table summarizes which previous demographic, health, nutritional starus or other rype of surveys have been

carried out in the last then years and indicates whether it was of the WFS, CPS, DHS or another kind. It shows the approximate date of the survey and whether the survey was integrated into the NHSCP Programme.

4. The table also gives an outlook on what has been tentatively planned for the next five years, whether it will be a census, a possible DHS or PAPCHILD survey and if the country has formally requested to participate in the NHSCP and/or in the SDA Project.

5. Further analyses taking into account the type and scope of surveys plus the quality and timeliness of data, to ascertain their suitability to compile the final list of agreed-upon indicators is more time-consuming and will require more inputs. That would constitute the next step in preparation of the inventory.

Country Inventory Table: Classification of countries according to previous and planned census and surveys

Region / Country / Area	PREVIOUS CENSUSES AND SURVEYS																PLANNED CENSUSES AND SURVEYS						COUNTRY PRIORITY	
	Last Census	WFS	CPS	FP-MCH	DHS1	GCNS & PAPCHILD	Surveys conducted within the NHSCP										Census (j)	DHS 2 (-)	SDA (k)	PAPCHILD	IAPHS	NHSCP	UNFPA	UNICEF
							Agric	Labour Force	Housing	NH EC. Activ.	Income Budget Exp.	Demog. & Socio. econ.	Migrat.	Literacy	Health & Nutrit.	Other (n)								
Northern Africa																								
Algeria	1987															86...en	-			93-97				
Egypt	1986	80	80/84-85		88												-	92		90		P	Egypt	
Libya	1984																-			93-97				
Moroco	1982	79-80	81-82		87			annual		..?.. 89	84-85	86-88					?	92		93-97			Morocco	
			83-84																(1989)	91-92				
Sudan	1986		79(M)		88						88-89						-			93-97			Sudan	
Tunisia	1984		79/83		88												?			90-92				
Western Sahara																				93-97				
Southern Africa																								
Botswana	1981		1984		1988a			84-85			85	86-87	88-89	83			1991							
Lesotho	1986	1977					annual	85-86	m		86-78			88-89									Lesotho	
Namibai																								
South Africa																								
Swaziland	1986																					P		
Western Africa																								
Benin	1979	1982a									86-87	83					1989						Benin	
Burkina Paso	1985																	91/92					Burkina Paso	
Cape Verde	1980																1990						Cape Verde	
Côte d'Ivoire	1988	1981														1978				1986		P	Côte d'Ivoire	
Gambia	1983																1993			1988			Gambia	
Ghana	1984	1980			1988e					LSMS87-88						1987				1989			Ghana	
Guinea	1983															1977				1989			Guinea	
Guinea-Bissau	1979																						Guinea-Bissau	
Liberia	1984				1986												1994						Liberia	
Mali	1987	1987			1987		annual			88-89inf	88-89	85				1985							Mali	
Mauritania	1977	1982								88/89LSMS										1989		P	Mauritania	
Niger	1988																			1991		P	Niger	
Nigeria	1963	1982			1987a												1991	89/90						
St. Helena																								
Senegal	1988	1978			1986											1982d			x	1988		P	Senegal	
Sierra Leone	1985							88-89								1982							Sierra Leone	
Togo	1981				1988																		Togo	

Country Inventory Table: Classification of countries according to previous and planned census and surveys

Region / Country / Area	PREVIOUS CENSUSES AND SURVEYS																PLANNED CENSUSES AND SURVEYS						COUNTRY PRIORITY	
	Last Census	WFS	CPS	FP-MCH	DHS	GCNS & PAPCHILD	Surveys conducted within the NHSCP										Census	DHS 2	SDA (k)	PAPCHILD	IAPNS	NHSCP	UNFPA	UNICEF
							Agric	Labour Force	Housing	HH EC. Activ.	Income Budget Exp.	Demog. & Socio. Econ.	Migrat.	Literacy	Health & Nutrit.	Other (m)								
Eastern Africa																								
Burundi	1979				1987												1989					P	Burundi	
Comoros	1985																						Comoros	
Djibouti																				92-97				
Ethiopia	1984						annual	81-82			81-82	81-82/89			82-83	1981							Ethiopia	
Kenya	1979	1978	1984a		1988a		86-87an	87-88	83-84D 87-88a		82-83	83		88	82/87	81 Nordics 1983	1989	89/90(d)					Kenya	
Madagascar	1975																1990		1989				Madagascar	
Malawi	1987						ann.'85	83	86			82/84(e)				83 77/82/84			(1989)				Malawi	
Mauritius	1988		1985																					
Mozambique	1980																		(1989)				Mozambique	
Reunion																								
Rwanda	1988															1984		1990				P	Rwanda	
Seychelles	1987																							
Somalia			1983																	90-92			Somalia	
Uganda	1980				1988																		Uganda	
Tanzania, U. Rep.	1988																	1990	(1989)			P	Tanzania	
Zambia	1980						annual	86			85	87 M.P				1987	1990		1989				Zambia	
Zimbabwe	1982		1984a		1988a		annual	86-87		83-84(g)	84-85	83-84		86-87	83-84/ 84-85 83-84(h)		1992							
Middle Africa																								
Angola	1983																							
Cameroon	1987	1978								83(f)	83					1987		90						
Central Afr. Rep.																	?						Cen.Af.Rep.	
Chad	1968															977			(1989)				Chad	
Congo	1984																1994					P		
Equatorial Guinea	1983																					P	Eq. Guinea	
Gabon	1981																							
Sao Tome & Principe	1981																							
Zaire	1984		82-84c															x					Zaire	

Footnotes

WPS: World Fertility Survey
CPS: Contraceptive Prevalance Survey
DHS: Demographic and Health Survey
SDA: Social Dimensions of Structural Adjustment
FP/MCH: Family Planning/Maternal Child Health
NHSCP: National Household Survey Capability Programme

a) Conducted within NHSCP
b) FP-MCH (Regional)
c) Regional
d) in-depth
e) Family formation survey
f) Post-census enumeration survey
g) Energy survey
h) Water and Sanitation Survey
i) Rural Retail Price survey
j) As of 1 March 1989
(-) A reasonable anticipation that a census will be held during the decade but there is no established pattern on which to predict a date

Status uncertain
k) SDA 89 - Target effectiveness date
SDA (89) - Appraisal mission
l) with nutritional status module
m) energy consumption
n) For subject titles when not indicated please refer E/CN.3/1989/18, UN Statistical Commission: 25th Session

U Urban
R Rural
X Possible
P Countries with project proposals
F Female
M Male